Amendments to the Specification:

On page 3, please replace the paragraph starting on line 9 with the following:

Yet another embodiment of the invention includes a method for tumor detection, wherein a primary optically labeled marker or antibody is infused into a patient or injected into a target tissue or organ site containing a tumor and specifically binds to a marker produced by or associated with a tumor. The target tissue or organ site is scanned with a biopsy ablation apparatus including a sensor array and the binding sites of the labeled marker antibody are located by detecting elevated levels of optical label signal intensity at such sites with the sensor array. This information can be digitally stored and displayed on a monitor device to accurately position the biopsy ablation apparatus within the tumors to deliver energy to necrose or ablate the tumor resulting in an ablation volume. A second marker which binds or reacts with necrosed tumor tissue can infused or injected into the tumor site before, during or after the delivery of ablating energy. The sensor array is utilized to detect the signal from the second marker ablation volume and this signal digitally stored and superimposed~~ly~~ the display over tumor volume image so as to determine the size of the ablation volume relative to the tumor volume. This embodiment provides two key benefit to the physician: (i) visual confirmation that the tumor has been completely ablated/necrosed, (ii) selective control over ~~control~~ the amount of healthy tissue margin that is ablated beyond the tumor volume to improve clinical outcomes of the procedure.

On page 15, please replace the paragraph starting on line 11 with the following:

Referring back to Figure 4, emitting member 22me can include an integral light source 17 such as an LED or a diode laser or alternatively can be optically coupled to an external light source 17 which in various embodiments, can be configured to emit light at multiple wavelengths and over a range of wavelengths including, but limited to the range of 300 to 850 nm, a more preferred range of 450 to 850 nm with specific embodiments in the UV and infrared ranges. In an embodiment light source 17 can be a monochrometer known in the art. Examples of monochrometers include single crystal, double crystal and surface normal reflection monochrometers as well as models manufactured by Macken Instruments Inc. (Santa Rosa, Calif.). In other embodiments,

light source 17 can be a white light source, a xenon bulb, an LED or a coherent light source such as a laser configured to emit probe beam 22ib. Examples of lasers include, but are not limited to, YAG lasers, Nd:YAG lasers, CO_2 lasers, infrared lasers, argon lasers, tunable dye lasers and copper vapor lasers. Referring now to Figure 10, laser device 17 can include multiple beams at different wavelengths including a first 22ib' and a second beam 22ib" having a first and second wavelength 7' and 7" wavelength. Examples of multiple wavelength emitting lasers include CO_2 lasers and argon-pumped tunable dye lasers. The use of multiple and/or a broad spectrum of wavelengths 7 provides the benefit of increased tissue or tissue chromophore specificity and hence increased predictive power (e.g. statistical confidence) of associated tissue identification algorithms described herein. The use of laser light source 17 with multiple beams and wavelengths can also be configured to determine the deployment distance of one or more members 18, 18e using laser range finding methods known in the art.

On page 24, please replace the paragraph starting on line 10 with the following:

In addition to identifying tissue types, apparatus 10 and sensor arrays 22a can also be employed to monitor the progression of an ablative procedure including the progression of an ablation volume 5av resulting from the delivery of energy to target tissue volume 5. Referring now to Figures 14a and 14b, emitters 22a and detectors 22md can be configured to monitor the moving boundary layer of cell necrosis 55 and/or thermal fronts 55t of a developing ablation volume 5av. This can be achieved by monitoring for the presence of metabolic chromophores 33 or markers 9 indicative of cell necrosis or ablation described herein. The spectral signal intensity 19s (at one or more wave lengths 7) for a volume of tissue between one or more emitters 22me and detector 22md can be monitored over time. An endpoint for ablation can be determined based on either a selectable threshold value 19ts of signal 19s or an inflection point or change in slope 19ds (e.g. a derivative) of curve 19s or a combination of both. In an embodiment signal 19s can comprise the subtraction of a baseline (or reference) spectral measurement 19sbl of a nearby, but non-ablated tissue volume, from a real time measurement 19srt of the target tissue volume during the time course of ablation. This compensates for any signal or tissue hysteresis over time. Signal/curve 19s can

include both spectral, thermal and impedance measurements. Values for 19ts and 19s can be input and stored in logic resource 19lr coupled to spectrophotometer 19 or incorporated into an electronic algorithm controlling the delivery of energy which can be stored in a controller or processor 338 coupled to power supply 20.

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On page 25, please replace the paragraph starting on line 5 with the following:

In related embodiments, sensor array 22a can be configured to monitor for any number of indicators of cell necrosis that can be utilized to qualitatively or quantitatively assess the progress of an ablation and determine a meaningful clinical endpoint. Such indicators and associated monitoring and endpoint methods include, but are not limited to, the following: monitoring interstitial moisture or hydration levels (these would be expected to go up as cells lyse and then go down as fluid is boiled or evaporated) and utilizing a decrease below a lower threshold as an endpoint; monitoring interstitial electrolyte concentrations (which increase with cell lysis); monitoring for interstitial fatty acid and amino acid concentrations (which would increase with cell lysis and then decrease due thermal degradation); monitoring for the increase or decrease of marker compounds 9; monitoring impedance; monitoring tissue temperature changes using near-infrared or thermocouple measurements; monitoring tissue color changes (e.g. red to white), monitoring for protein or collagen denaturization; monitoring for the release of DNA, gene fragments, DNA fragments or degraded DNA; monitoring for the release of RNA, RNA fragments or RNA fragments; monitoring for changes in tissue oxygenation in the form of PO_2 or oxyhemoglobin; monitoring for changes in PCO_2; monitor for decrease or cessation of blood flow rates (an indication of tissue coagulation) using optical (e.g. laser Doppler) or acoustical (e.g. doppler ultrasound) sensors and monitoring for the presence of vapor bubbles and rate of vapor bubble formation. In a specific embodiment, sensor array is configured to monitor the rate of vapor bubble formation (using either optical and/or acoustic/ultrasound sensors 22) and as an indicator of both rate of ablation and also a treatment endpoint. A treatment control and endpoint algorithm in module 19a employing this method would initially look for an increase in bubble rate formation and then a decrease below a set threshold as the

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endpoint. Other related embodiments can be configured to monitor for various cellular functions indicative of injury or necrosis.

On page 35, please replace the paragraph starting on line 4 with the following:

Referring now to Figures 25 through 28 in various embodiments one or more electrodes 18e can be covered by an insulative layer 36 so as to have an exterior surface that is wholly or partially insulated and provide a non-insulated area which is an energy delivery surface 18eds. In an embodiment shown in Figure 25, insulative layer 36 can comprise a sleeve that can be fixed or slidably positioned along the length of electrode 18e to vary and control the length 36' of energy delivery surface 18eds. Suitable material for insulative layer 36 include polyimide and ~~flouro-carbon~~ fluorocarbon polymers such as TEFLON.